GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:894
ANSWERED ON:24.02.2006
MONSOON PREDICTION
Vallabbhaneni Shri Balashowry

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the monsoon prediction in our country is not being made accurately;

(b) if so, whether the Government proposes to buy United States made weather prediction instruments;

(c) if so, the details thereof; and

(d) the steps taken by the Government in this direction?

Answer

MINISTER OF SCIENCE & TECHNOLOGY AND MINISTER OF OCEAN DEVELOPMENT (KAPIL SIBAL)

(a) The Monsoon prediction in our country is being done with reasonable accuracy. The success rate of India Meteorological Department (IMD) forecasts since 1988 has been high. During the last 18 years (1988-2005) IMD forecasts were qualitatively correct in 16 years, i.e. 89% of years. The exception was during years 2002 and 2004 both of which were drought years. The 2002 drought was due to exceptionally low rainfall during the month of July (49% of long term period) caused by unexpected sudden warming of sea surface over equatorial central Pacific that started in the month of June. It may be mentioned that the large deficient rainfall of July, 2002 was not predicted by any prediction group in India or abroad. In India, for the operational long forecasting of monsoon rainfall, the main approach used is based on statistical models. It is not possible to have 100% success for forecasts based on statistical models. The problems with statistical models are inherent in this approach and are being faced by forecasters "world wide". The alternate approach based on numerical models has also not shown very high success rate in predicting monsoon rainfall over India. But numerical models have the potential to provide forecasts as per the users demand in terms of temporal and spatial distribution.

(b) No, Sir. Long range forecast of monsoons cannot be made directly with instruments. For this purpose observed data of past many months needs to be put into numerical or statistical models.

However, looking at the potential of numerical models, IMD has already adopted a prediction system based on numerical models in addition to its existing system based on statistical models. For this purpose, IMD under a collaborative research program with Indian Institute of Science, Bangalore has adopted a numerical model developed at the Experimental Climate Prediction Centre (ECPC), Scripts Institute of Oceanography, USA. The ECPC model adopted by IMD was used to prepare an experimental forecast for monsoon 2005 and performance was found to be satisfactory. This model can be used by IMD for operational work only after some validation.

(c) and (d) In view of (a) and (b) above, Question does not arise.